

CEL-DS13
May 31, 1989

PURCHASE DESCRIPTION

PULSE MODULATOR (2 to 18 GHz)

ML00A-A

- 1.0 GENERAL This procurement requires a wideband, high performance microwave pulse modulator which can be used with many microwave sources, sweepers as well as signal generators, over the frequency range of 2 GHz to 18 GHz.
- 2.0 CLASSIFICATION The pulse modulator described herein shall meet the requirements of MIL-T-28800(), Type III, Class 5, Style E, Color R for Navy shipboard, submarine, and shore applications with the following exceptions:
- a. The non-operating temperature requirement is limited to the range of -40°C to +70°C.
 - b. The relative humidity requirement is limited to 95% noncondensating.
 - c. The operating and non-operating altitude requirements are not invoked.
 - d. The Electromagnetic Interference requirements of MIL-T-28800 are limited to CE01, CE03, CS01, CS02 (0.05 to 100 MHz), CS06, RE01 (back panel search excluded), RE02 (14kHz to 1 GHz), and RS03.
- 3.0 OPERATIONAL REQUIREMENTS The equipment shall be capable of producing signals within the parameters and accuracies specified herein.
- 3.1 Frequency Characteristics
- 3.1.1 Range: At least 2 GHz to 18 GHz
 - 3.1.2 Insertion Loss: <10 dB
- 3.2 Pulse Characteristics
- 3.2.1 On/Off Ratio: >80 dB
 - 3.2.2 PRF: Maximum pulse repetition rate >5 MHz

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- 3.2.3 Minimum Pulse Width: 50 nsec
- 3.2.4 Rise/Fall Times: <10 nsec
- 3.2.5 Video Feedthrough: <60 mV p-p
- 3.2.6 RF Connectors/Impedance: Type N; 50 ohm (input and output)
- 3.2.7 Pulse Input: >3 V (On) and <0.5 V (Off), 50 ohms, normal and compliment inputs.

4.0 GENERAL REQUIREMENTS

- 4.1 Power: 115/230 Vac $\pm 10\%$, single phase, 50, 60 or 400 Hz $\pm 10\%$, 25 VA maximum
- 4.2 Calibration Interval: The calibration interval shall be 12 months minimum. The equipment shall be within all accuracy requirements specified herein, with a 72% or greater confidence factor following a calibration interval of 12 months.
- 4.3 Dimensions: The total volume of the unit shall not exceed 400 in³ (6555 cm³), maximum height 3.5 in.
- 4.4 Weight: The total weight of the unit shall not exceed 6 lbs (2.7 kg).